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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)
056233-0139 (THAT-3DVCN)

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]

on Via EFS-WEB

Signature /G. Matthew McCloskey/

Typed or printed name G. Matthew McCloskey

Application Number	Filed
09/638,245	14 August 2000

First Named Inventor: Christopher M. Hanna

Art Unit	Examiner
2614	Lee, Ping

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☑ attorney or agent of record.
Registration number 47,025.

☑ attorney or agent acting under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 47,025

/G. Matthew McCloskey/
Signature

G. Matthew McCloskey
Typed or printed name

617.535.4082
Telephone number

04 October 2010
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

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8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

REMARKS

Claims 60-93, 104-106, 109-110, 112-119, and 121-133 are pending in the subject application. Claims 118, 121-127, 132, and 133 are withdrawn. Claims 60, 63, 67, 69, 72, 76, 78, 80, 82, 86-89, 92, 106, 109, 110, and 112-114 are independent claims. In the final Office Action of 01 June 2010 (the "Office Action"), claims 60-93, 104-106, 109-110, 112-117, 119, and 128-131 were rejected on various grounds, as described in further detail below. Subsequent to the noted Office Action, applicant filed an Amendment under 37 C.F.R. § 1.116 dated 01 October 2010 offering to cancel claims 104, 105, 116, 118, and 121-133, without prejudice and without any intention to abandon the subject matter claimed therein, in order to reduce and/or simplify the issues on appeal.

Based on the following remarks, reconsideration and withdrawal of the rejections are respectfully requested for the subject application.

Elections/Restrictions

Claims 121-127 submitted in applicant's last paper have been withdrawn as being independent and distinct from the invention originally claimed. Without acceding to the statements made in the Office Action regarding claims 121-127, it is noted that claims 121-127 have been canceled in order to advance the prosecution of the present application.

Claim Rejections – 35 U.S.C. § 112

Claim 104 has been rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Without acceding to the statements made in the Office Action regarding the rejection of claim 104 under 35 U.S.C. § 112, it is noted that claim 104 has been canceled, thus rendering the rejection as moot.

Claim Rejections – 35 U.S.C. § 103

Claims 69-71, 82-84, 86-87, 89-93, 109, 110, 112-115, and 119 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over applicant admitted prior art as illustrated in FIG. 1 ("APA") in view of U.S. Patent No. 4,803,727 to Holt et al. ("Holt"). Claims 60-68, 72-77, and

88 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over APA in view of Holt, and in further view of Crochiere at al. ("Crochiere") ("Interpolation and Decimation of Digital Signals – A Tutorial Review"). Claims 78-81, 85, 104-106, 116-117, and 128-131 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over APA in view of Holt, and in further view of U.S. Patent No. 4,809,274 to Walker et al. ("Walker").

Without acceding to the propriety or correctness of the statements alleged in the Office Action for the noted rejections, applicant respectfully submits that applicant's discussion of the prior art as well as the applied prior art references, whether considered individually or in combination, do not teach or suggest the limitations of applicant's amended independent claims, as is explained below.

FIG. 1 of the subject application (cited as the APA), discloses an analog BTSC encoder system. Applicant's background discussion of Fig. 1 does not teach or suggest a digital BTSC encoder as recited in each of the claims on appeal.

Concerning the APA, applicant's background discussion mentions that even though a digital BTSC encoder would potentially offer several advantages, many difficulties existed at the time the application was filed for implementing such an encoder (described at paragraphs [0020]-[0021]):

> [0020] While a digital BTSC encoder would potentially offer several advantages, there is no simple way to construct an encoder using digital technology that is functionally equivalent to the idealized encoder 100 defined by the BTSC standard. One problem is that the BTSC standard defines all the critical components of idealized encoder 100 in terms of analog filter transfer functions. As is well known, while it is generally possible to design a digital filter so that either the magnitude or the phase response of the digital filter matches that of an analog filter, **it is extremely difficult to match both the amplitude and phase responses without requiring large amounts of processing capacity for processing data sampled at very high sampling rates or without significantly increasing the complexity of the digital filter. Without increasing either the sampling frequency or the filter order, the amplitude response of a digital filter can normally only be made to more closely match that of an analog filter at the expense of increasing the disparity between the phase responses of the two filters, and vice versa.** However, since small errors in either amplitude or phase decrease the amount of separation provided by BTSC

encoders, it would be essential for a digital BTSC encoder to closely match both the amplitude and phase responses of an idealized encoder of the type shown at 100 in FIG. 1.

[0021] For a digital BTSC encoder to provide acceptable performance, it is critical to preserve the characteristics of the analog filters of an idealized encoder 100. Various techniques exist for designing a digital filter to match the performance of an analog filter; **however, in general, none of these techniques produce a digital filter (of the same order as the analog filter) having amplitude and phase responses that exactly match the corresponding responses of the analog filter**. Ideal encoder 100 is defined in terms of analog transfer functions specified in the frequency domain, or the s-plane, and to design a digital BTSC encoder, these transfer functions must be transformed to the z-plane. Such a transformation may be performed as a "many-to-one" mapping from the s-plane to the z-plane which attempts to preserve time domain characteristics. However, in such a transformation the frequency domain responses are subject to aliasing and may be altered significantly. Alternatively, the transformation may be performed as a "one-to-one" mapping from the s-plane to the z-plane that compresses the entire s-plane into the unit circle of the z-plane. However, **such a compression suffers from the familiar "frequency warping" between the analog and digital frequencies. Prewarping can be employed to compensate for this frequency warping effect, however, prewarping does not completely eliminate the deviations from the desired frequency response.** These problems would have to be overcome to produce a digital BTSC encoder that performs well and is not unduly complex or expensive. (Emphasis added)

Holt, in contrast with applicant's pending claims 69-71, 82-84, 86-87, 89-93, 109, 110, 112-115, and 119 ("Group A"), discloses an audio signal transmission system in which (a) at a transmitter: a monophonic signal and a difference signal are derived from left and right input signals, a digital version of the difference signal is bandlimited to a predetermined bandwidth smaller than that of the monophonic signal, the sampling rate of the digital bandlimited difference signal is reduced, and the monophonic and resulting difference signals are transmitted to a receiver; and (b) at a receiver: upon reception, the sampling rate of the digital difference signal is increased, frequencies above the predetermined bandwidth in the difference signal are attenuated, and left and right output signals are derived from the monophonic and resultant difference signals; and in which, either at the transmitter or receiver, compensation for the differential delays in the monophonic and difference signals is introduced. Holt, col. 1, lines 41-58.

As was explained by applicant's previous papers, e.g., the Declaration of Dr. John Strawn Pursuant to 37 C.F.R.§ 1.132 submitted 15 April 2009 (the "Declaration,"), Holt does not teach or suggest the deficiencies of the APA with respect to applicant's Group A claims. For instance, Holt teaches use of a multiplexor for multiplexing sum and difference channels. See Holt, col. 3, lines 4-10. As was explained in the above-referenced Declaration, **the term "multiplexing" is completely different and distinct from the term "summing."** Substituting the former for the latter **would not** and **cannot** produce the composite signal (and corresponding structure) of applicant's Group A claims.

Moreover, as Holt teaches multiplexing and does not teach or suggest summing (as recited in applicant's Group A claims). Holt is actually seen as teaching away from Applicant's Group A claims. One skilled in the art would understand that since "multiplexing" is a specific term of art different and distinct from the term "summing", he/she would not be motivated to substitute the two different terms, since completely different results would occur if such a substitution were made. As stated by MPEP § 2145(X)(D)(2), "[i]t is improper to combine references where the references teach away from their combination" citing *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983).

Another difference between Holt and applicant's Group A claims involves filtering with regard to the composite signal and the pilot tone. The applicant's recited compliance with the BTSC standard requires that the claimed (expressly or inherently) filtering functionality skirts around the pilot tone f_H (15.734 kHz) specified by the (analog) BTSC standard. Holt's filters do not deal with this problem of filtering out f_H because no pilot tone is summed in Holt. Holt's multiplexor does not address the problem of adding the sum and difference signals in his disclosed system, meaning Holt's filters face significantly looser design constraints. To summarize, in the multiplexor of Holt, the sum and difference signals do not interact at all. This is a significant difference from the BTSC requirement of applicant's Group A claims. By using a multiplexor, Holt in fact teaches away from the pending claims of the Patent Application. It is submitted that if one skilled in the art studied applicant's statement regarding the APA and the disclosure of Holt, the combination lacks the suggestions, teachings and motivation on how to implement a digital BTSC compatible device.

Crochiere, is relied on as a tertiary reference with respect to applicant's claims 60-68, 72-77 and 88 (the "Group B claims") and is a tutorial review of interpolation and decimation of digital signals. Walker, is relied on as a tertiary reference with respect to applicant's claims 78-81, 85, 104-106, 116-117, and 128-131 (the "Group C claims") and is cited as disclosing a digital compander and as allegedly suggesting an adaptive weighting system. Without acceding to the Examiner's characterizations of the Crochiere and Walker references, these references (whether considered alone or in combination) are not understood as remedying the deficiencies of the APA and Holt with respect to Applicant's claims on appeal. Again it is submitted that if one skilled in the art studied applicant's statement regarding the APA and the disclosure of Holt, Crochiere and Walker, the combination lacks the suggestions and teachings on how to implement a digital BTSC compatible device as defined by applicant's Group A, B and C claims. In fact Holt is seen actually as teaching away from applicant's Group A, B and C claims. For at least this reason, proper motivation is not believed to exist for the proposed rejections of Applicant's claims under 35 U.S.C. § 103(a).

In summary, none of the applied prior art is believed to teach or suggest the limitations of Applicant's independent claims as listed herein. The other claims currently under consideration in the application are dependent from their respective independent claims discussed above and therefore are believed to be allowable over the applied references for at least similar reasons. Because each dependent claim is deemed to define an additional aspect of the invention, the individual consideration of each on its own merits is respectfully requested. The absence of a reply to a specific rejection, issue, or comment does not signify agreement with or concession of that rejection, issue, or comment, but more to do with the page limitations on this paper imposed by the USPTO. In addition, because the arguments made above may not be exhaustive, there may be other reasons for patentability of any or all claims that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede, or an actual concession of, any issue with regard to any claim or any cited art, except as specifically stated in this paper, and the amendment or cancellation of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment or cancellation. Applicant, therefore, respectfully requests withdrawal of the noted rejections under 35 U.S.C. § 103(a), and allowance of all of the pending claims.